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ABSTRACT

The impact of changes in student aid policies on the way students and their families pay for college is examined. A major focus is how student loans fit into the overall framework of student finance. Information is presented on the National Direct Student Loan program and Guaranteed Student Loan program. Both programs provide the opportunity to borrow at a below-market interest rate and have interest-free in-school and grade periods. Two major databases on student finance are considered for their utility in indicating how much nonreturnable loan aid the government dispenses and who receives it. The first source, the annual freshman survey of the Cooperative Institutional Research Program (CIRP) is found to be lacking because it covers only freshmen and because its data on family income and student aid awards are collected in a manner that makes them difficult to use. The Department of Education's surveys conducted as part of the Study of the Impact of Student Financial Aid Programs (SISFAP) avoid many of the drawbacks of the CIRP, but they do not provide a complete picture of how students pay for college. The data are used to estimate the average net student burden (the amount that a student must contribute from work and loans, minus the nonreturnable portion of loans) faced by students at public two-year colleges, public four-year colleges, and private four-year colleges in 1978-79 and 1979-80. It is found that the burden is generally fairly low: no more than 25 to 30 percent of the student's cost of education. The burden appears to be roughly equal across all income levels: there is little evidence of a middle-income squeeze. Implications of these findings for future data collection for federal student aid policies are considered. (Author/SW)

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Technical Analysis Report Series

REPORT #6

RECENT TRENDS IN FEDERAL STUDENT AID: THE RISE OF THE "NONRETURNABLE" LOAN

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JUNE 1981

Thomas M. Corwin is a Program Analyst in the Office of Technical and Analytic Systems, Office of Planning, Budget, and Evaluation, U.S. Department of Education. He would like to thank Lawrence Brown, James Maxwell, Robert Barnes, Patricia Smith, Charles Byce, and Adriana de Kanter for their review and criticism of earlier drafts of this paper, and Rebecca McCombs for her editorial assistance. The opinions expressed in this paper are entirely those of the author and should in no sense be taken to represent the official policy of the Department of Education.

EXECUTIVE SUMMARY

The purpose of this paper is to examine the impact of changes in student aid policies on the way students and their families pay for college. Because student loans have been the largest component in the recent increase in Federal student assistance, a major focus of the paper is how student loans fit into the overall framework of student finance.

The Department of Education administers two major student loan programs: National Direct Student Loans (NDSL) and Guaranteed Student Loans (GSL). While the two programs differ greatly in terms of how they are financed and administered, they present a similar set of terms and conditions to the student borrower; the most important of these are the opportunity to borrow at a below-market interest rate and the interest-free in-school and grace periods. By setting these terms and conditions, the government makes it possible for students to receive more in economic benefits than they later repay. The difference, referred to as the "nonreturnable" portion of a student loan, is measured using a "net present value" calculation. The net present value of a student loan is highly sensitive to a student's "discount rate," the amount of time the student spends in school and in deferred activities subsequent to taking the loan, and the length of the repayment period.

In the next section of the paper, two major data bases on student finance are considered for their utility in indicating how much nonreturnable loan aid the government dispenses and who receives it. The first source, the annual freshman survey of the Cooperative Institutional Research Program (CIRP) is found to be lacking because it covers only freshmen and because its data on family income and student aid awards are collected in a manner that makes them difficult to use. (Nevertheless, the CIRP data have frequently been used to advance various student aid policy options. An example of this is described.)

The surveys conducted as part of the Education Department's "Study of the Impact of Student Financial Aid Programs" (SISFAP) avoid many of the drawbacks of CIRP. They do not, however, provide a complete picture of how students pay for college. Still, SISFAP is probably the best source of reasonably current data on student finance. The data are used to estimate the average "net student burden" (the amount that a student must contribute from work and loans, minus the nonreturnable portion of loans) faced by students at public two-year colleges, public four-year colleges, and private four-year colleges in 1978-79 and 1979-80. It is found that the burden is generally fairly low -- no more than 25 to 30 percent of the student's cost of education. The burden appears to be roughly equal across all income groups: there is little evidence of a "middle-income squeeze," either before or after passage of the Middle Income Student Assistance Act. Finally, the impact of MISAA on participation in the GSL program is not found in the data. This is attributed to problems with the surveys (as a source of information on GSL) or to a delayed reaction by high-income families to changes in the legislation.

The paper closes with a discussion of the implications of these findings for future data collections for Federal student aid policies.

Better information on participation in the student aid programs is needed, particularly on participation in the GSL program. This should include data on graduate students, on other students who receive only GSLs, and on patterns of repayment. A look at the amount of assistance provided through the six major ED student aid programs shows the increasing predominance of GSL. Unless changes are made in the program, GSL will soon be providing students with more nonreturnable assistance than do the two largest need-based grant programs, BEOG and SEOG. This presents a dilemma for policy-makers concerned with student aid and with the possible enactment of tuition tax credits.

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Introduction

In recent years, the Federal government has provided major and unprecedented increases in financial assistance to college students. As the amount of aid has increased, the distribution of beneficiaries by family income has changed: programs once directed at the most needy now provide substantial benefits to middle-income students. The Guaranteed Student Loan (GSL) program, which is now open to students at all income levels, has undergone the most rapid expansion. The result has been an alteration in the basic character of Federal student assistance: loans have come to play a larger role in student finance, the loan programs require sharply increasing subsidies from the U.S. Treasury, and many more students participate.

These rapid changes in the student aid programs have strained the ability of analysts to determine how well the programs are operating--that is, how successful they are at eliminating the financial barriers to postsecondary education. Traditionally, the goals of student assistance have been framed in terms of access, the ability of students from all income groups to afford some type of postsecondary education, and choice, the ability of a student to attend the appropriate institution regardless of price. A variety of statistical indicators have been devised to measure the performance of the programs in achieving these goals. 1/ To make such measurements, data of reasonable validity and currency must be available. Yet recently, the programs have changed so quickly (in terms of cost, rate

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1/ Some of these indicators are used in the Annual Evaluation Report on Programs Administered by the U.S. Office of Education, Fiscal Year 1979. U.S. Department of Health, Education, and Welfare, Office of Education, Office of Evlauation and Dissemination, pp. 246-263.

of participation, and basic terms and conditions) that the applicable program and survey data are often obsolete as soon as they are produced. Data on the GSL program are in particularly sorry condition, frustrating any attempt to answer such basic questions as: "What are the characteristics of students who receive GSLs?;" "How much do typical GSL recipients borrow and how much 'economic benefit' do they receive?;" and "How do the loan programs fit into the overall framework of student finance?"

The purpose of this paper is to suggest a framework for considering the current state of college student finance (with emphasis on student loans) and, then, to make some tentative conclusions about the impact of financial assistance on student finance. The paper is organized as follows: after a brief description of the terms and conditions of the major ED student loan programs, a "net present value" procedure is set out for measuring the benefits students receive from loans. Although fairly simple, this measure does not seem to have been employed in earlier analyses of the student loan programs.

In the next section of the paper, two major data bases are examined for their ability to provide valid and reasonably complete information on how students finance their education, particularly on how much assistance students in different circumstances receive from loans. Problems with the existing data bases are considered and some suggestions made for future collection of data. Using the best available source of information, the "student burdens" faced by students at different income levels and attending different types of collegiate institutions are examined. The final section of the paper suggests some implications of the analysis for Federal student aid policies.

NDSL and GSL

At the present time the Federal government runs two major student loan programs. 2/ Funds for National Direct Student Loans (NDSL) are allocated by the Department of Education to postsecondary institutions on the basis of student need and the level of previous institutional participation in the program. From these funds, financial aid officers provide loans to students with demonstrated financial need. The institutions also make loans from "revolving funds" of money they collect from previous borrowers.

In the Guaranteed Student Loan program, loans are made by eligible lending institutions (banks, savings and loan associations, credit unions, State agencies, and some educational institutions) using private capital. The loans are guaranteed by State and private nonprofit "guarantee" agencies (and reinsured by the Federal government) or insured directly by the Department of Education. Federal appropriations are used to pay the in-school interest subsidy to borrowers; to pay the "special allowance" to lenders (to assure them of an equitable return on the loans); to repay lenders and guarantee agencies for claims resulting from default, bankruptcy, death, and disability; and to provide administrative cost allowances to guarantee agencies. Currently, students at all income levels may apply to lenders for fully subsidized GSLs.

While the two programs are clearly quite different in how they are financed and administered, they present a similar set of terms and conditions to the student borrower:

2/ There are also five smaller programs: three for financing education in the health professions, one for veterans, and one for law enforcement personnel. In addition, eligibility to participate in the Guaranteed Student Loan program is now being extended to parents under different terms than those applying to students.

- o borrowing at a below-market interest rate. For an NDSL the rate is 3 percent. (It will increase to 4 percent on July 1, 1981.) For a GSL, a 7 percent rate applied until recently. Students who take GSLs for enrollment beginning after January 1, 1981, and who have no 7 percent GSLs outstanding are charged a 9 percent rate.

- o a period during which no principal or interest is required to be paid. In both programs this covers the time the student is in school (on at least a half-time basis) and a "grace period." For NDSL and new GSL borrowers, the grace period is now six months. For old NDSLs and old GSL borrowers, a nine-month grace period applies.

- o a number of conditions under which repayment of the loan can be deferred beyond the normal in-school and grace periods. In both programs deferral is authorized for the following reasons: (1) return to school on at least a half-time basis; (2) up to three years of service in the Armed Forces or the Commissioned Corps of the Public Health Service; (3) up to three years of full-time volunteer work for the Peace Corps, VISTA, or a nonprofit agency; (4) up to three years if the borrower is temporarily totally disabled or is caring for a spouse who is so disabled; (5) up to two years for a preprofessional internship. A borrower may take a six-month grace period after each period of deferment. In addition, a GSL borrower is allowed to defer payment for up to one year during which he or she is seeking but is unable to find full-time employment.[3/]

- o a set of conditions governing the rate at which a loan must be repaid once the repayment period begins. Traditionally, both programs have had a ten-year maximum repayment period.[4/] Under the 1980 reauthorization, NDSL repayment may be extended an additional ten years for low-income individuals. In both programs borrowers must repay at a rate of at least $360 a year, [5/] which will limit the repayment period for a person

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3/ In addition, repayment obligations under either program are cancelled if the borrower dies or becomes permanently and totally disabled. GSL obligations may be forgiven if the borrower declares personal bankruptcy (generally only if this occurs at least five years after the beginning of the repayment period). All or a portion of a borrower's NDSL obligations may be cancelled for full-time service as a teacher in a school serving a substantial number of disadvantaged students or as a teacher of the handicapped, for full-time employment in Head Start, or for military service in an "area of hostility." The proportion of the obligation that can be cancelled depends on the length of service.

4/ This does not include deferment periods that occur after the initial repayment period has begun.

5/ In NDSL, repayment may be waived for up to one year in order to avoid economic hardship to the borrower.

with a low aggregate debt. In cases where a husband and wife each have a GSL outstanding, their combined annual payment must be least $360. A GSL must be repaid within 15 years of its original date of disbursement. (This does not include any authorized deferment periods.) Both types of loan tend to be repaid in equal monthly, bimonthly, or quarterly installments, but that is not required: an NDSL borrower may request a graduated repayment schedule, and the payment schedule for a GSL is determined between the borrower and the lender.

In addition, GSL lenders are required to pay an insurance premium to the Federal government or to a State guarantee agency, and the lenders may in turn pass these charges on to the borrowers. The amount of the premium varies. Borrowers obtaining GSLs under the Federally Insured Student Loan (FISL) program pay a premium of 1/4 percent per year of loan principal for the period beginning the month following the month the loan is made and ending 12 months after the borrower's anticipated date of graduation. This premium is paid at the time the student obtains the loan. Under the Guarantee Agency program, State agencies may charge up to 1 percent of the unpaid balance for a period not to exceed the life of the loan. (Most agencies charge either 1 percent or one-half of 1 percent).

The "Nonreturnable" Portion of a Student Loan

From the preious discussion, it should be evident that students seldom, if ever, repay the full value of the student loans they receive. In an economic sense, certain terms and conditions of the loan programs (below-market interest, in-school interest subsidy, additional deferment periods) serve to reduce the amount that is repaid to the government. The remainder accrues, to the student, like a direct grant, as "nonreturnable" aid.

The amount of nonreturnable aid received by a student will depend on the particular circumstances that apply: type of loan taken, time spent in school (and in other deferable activities) subsequent to taking the loan,

pattern of repayments, and length of repayment period. For a particular student, the amount of nonreturnable aid received can be measured using a "net present value" calculation. The procedure for making this calculation is described below.

Calculating the Net Present Value

A net present value calculation permits us to compare the current benefits the student receives with the costs to be borne in the future, both expressed in terms of present value to the student. This calculation will first be demonstrated for a particular student in a particular set of circumstances. Then the assumptions regarding those circumstances will be relaxed in order to demonstrate the range of net present values that may apply.

Start with student John Doe, who receives a $1,000 GSL (under FISL) in September 1980, the beginning of his sophomore year. Assume that he also borrows $1,000 at the beginning of his junior and senior years.[6/] Finally, assume that he graduates on schedule, that he selects (and his bank permits) a ten-year repayment, that he does not receive additional authorized deferments, and that he is faithful in his repayment, never going into default. For $3,000 in FISL loans, the student will pay about $20 in insurance premiums and $4,145 in repayments. Thus each $1,000 borrowed will cost about $1,388 in insurance premiums and repayments. John Doe's stream of receipts and repayments is shown in Table 1.

Comparing the aggregate of receipts and repayments does not tell us

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6/ With an aggregate debt of $3,000 the student can take advantage of the full ten-year repayment period without violating the $360 annual repayment requirement.

TABLE 1

(Hypothetical) Student's Receipts and Payments in the Guaranteed Student Loan Program

Calendar Year	Receipts	Payments
1980	$990.76*	
1981	993.28*	
1982	995.80*	
1983		-----†
1984		$310.77
1985		414.45
1986		414.45
1987		414.45
1988		414.45
1989		414.45
1990		414.45
1991		414.45
1992		414.45
1993		414.45
1994		103.59
	$2,979.84	$4,144.49

*Principal minus insurance premium

†Assumes a nine-month grace period beginning June 1, 1983

much about the net benefit (that is, the amount of nonreturnable aid) the student actually receives. What is needed is a way of reducing the stream of benefits and payments to a single value, measured at one moment in time. The standard method for accomplishing this is called "discounting."

The mechanics of discounting are very simple. The first step is to select a rate, called a "discount rate," for comparing present versus future gains. If, to the individual in question (in this case the student borrower), $1.00 today has the same value as $1.05 to be received one year from now, we can say that that individual has a discount rate of 5 percent The equation for this relationship is:

$$S_t = \frac{S_{t+1}}{1 + r}$$

,where S_t is the sum of money at time t, S_{t+1} is the sum at time t+1, and r is the discount rate. (In this case S_t = $1.00, S_{t+1} = $1.05, and r = .05.) The same type of equation can be used in situations where costs and benefits occur in several time periods. For instance, an individual may face a situation in which an immediate cost is to be exchanged for some benefits that will be received immediately and other benefits that will be received in one and two years. We calculate the net present value (NPV) of this transaction as:

$$NPV = C_t + B_t + \frac{B_{t+1}}{1 + r} + \frac{C_{t+1}}{(1 + r)^2}$$

where C is the cost (it will have a negative value) and the Bs are benefits. The general equation for determining a net present value where costs

and benefits occur over n time periods is:

$$NPV = S_t + \frac{S_{t+1}}{1 + r} + \frac{S_{t+2}}{(1 + r)^2} + \ldots + \frac{S_{t+n}}{(1 + r)^n}$$

This equation can be used to determine the net present value of a student loan across 14 years of in-school, grace, and repayment time.[7]

First, however, it is necessary to select an appropriate discount rate. It is most common to use an estimated "opportunity cost of capital"--that is, the rate of return that could be earned on the money in question if it were placed in an alternative investment. For a government project, it is proper to estimate the rate of return that the funds would achieve if left in private money markets, since funds for public projects must be removed from the private sector through taxation or borrowing. Alternatively, analysts use the government's cost of borrowing money, such as the interest rate on long-term bonds, as a discount rate.

A similar "opportunity cost" concept can be used to derive a discount rate for student borrowers. One can assume that if John Doe did not receive his GSL, he or his parents would have to make up for it with funds from savings or other investments. Thus, the discount rate is the rate of return earned if those funds are left in the private investment markets. This approach could produce discount rates varying from the low return (5 to 6 percent) still earned on funds in savings accounts to the returns of 15 percent and even higher available through money market mutual funds, certificates of

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7/ For a more detailed explanation of discounting, a good source is Edith Stokey and Richard Zeckhauser, A Primer for Policy Analysis (New York: W.W. Norton, 1978), pp. 159-176.

deposit, and other opportunities now open to small investors.[8] Clearly, the net present value should be calculated using a range of discount rates. This will be done shortly, but for now we will use a rate of 10 percent for an initial, baseline estimate.

Returning to John Doe, suppose we want to know the net present value of the first $1,000 he borrows. Using the formula:

Net Present Value = (Face Value of Loan minus Insurance Premium) minus Discounted Value of Repayments

we can make the following calculation:[9]

$$NPV = 990.76 - \left[\frac{68.90}{(1.1)^3} + \frac{137.80}{(1.1)^4} + \ldots + \frac{68.90}{(1.1)^{13}} \right]$$

$$= 322.28$$

What this means is that, out of his $1,000 loan, John Doe will receive $322.28 that is never repaid to the Treasury. The remainder, $677.72, is the economic value of his insurance premium and repayments as measured using his own valuation of future versus present funds.

This measurement is highly sensitive to a number of assumptions. The first assumption, as noted above, is the choice of discount rate. One might believe that because most Americans keep their money in savings

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[8] While these investment vehicles are increasingly available to people with small sums to invest, they are (because of liquidity limitations and other factors) still used mainly by what may be loosely termed the "investment class." It is therefore possible that high-income people have higher average discount rates than low-income people. If that is the case, then in general a GSL will, ceteris paribus, be worth more to a high-income student than to a low-income student.

[9] The numerators in this equation were derived by calculating the monthly payments for a $1,000 GSL and then adjusting the annual payment to conform to a year beginning September 1.

accounts, a better choice of discount rate would be something on the order of 6 percent. At 6 percent the value of a $1,000 GSL (everything else as before) would be $113.11. On the other hand, the press has reported that it is increasingly common for families to use GSLs as capital for investment in money market mutual funds. The discount rate might be set at 14 percent, which would yield a net present value of $471.62.

The second assumption is that the loan is taken out at the beginning of the student's sophomore year. The $1,000 loans taken by John Doe in his junior and senior years will have smaller net present values because they are subject to smaller in-school (and therefore interest-free) periods. A loan taken out in the freshman year would be most valuable of all. Table 2 indicates, under several discount rate assumptions, the net present value of a $1,000 GSL taken out by John Doe in any of his four years of college.[10/]

Another assumption is that the loan is repaid in exactly ten years. Except at a discount rate below 7 percent, the longer a loan is in repayment, the higher its net present value. Yet students may have valid reasons for completing repayment in less than the maximal allowable time. Thus, one might decide to assume a shorter repayment period. If John Doe makes his final payment only five years after beginning repayment, the net present value of the loan he borrowed as a sophomore would be $287. Alternatively, the ten-year maximum can be extended if the student returns to school or takes

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10/ Note that the net present value of a $1,000 loan taken by a senior is only $4 when a 6 percent discount rate is used. If the discount rate were only a fraction of a percent less, a negative NPV would result. At even lower discount rates one could obtain a negative NPV for the loans taken by freshmen, sophomores, and juniors. Yet it seems clear that at any reasonable rate, the student comes out ahead.

TABLE 2

Net Present Value of a $1,000 Guaranteed Student Loan
Under Different Assumptions Regarding School Year
When Money is Borrowed and Discount Rate

	Discount Rate				
Year of Borrowing	6%	8%	10%	12%	14%
Freshman	$162	$283	$382	$465	$534
Sophomore	$113	$227	$322	$395	$472
Junior	$61	$167	$256	$333	$400
Senior	$4	$101	$183	$254	$318

Assumptions

7% GSL taken at the beginning of the school year

Student graduates (from a 4-year college) on schedule

9-month grace period

10-year repayment, in equal monthly amounts

No additional periods of deferment

part in an activity that confers the ability to defer repayment. Many students make use of these deferments. If, two years after his graduation, Doe returns to school for three years of graduate work and then after another grace period, continues with a ten-year repayment of the loan he took out as a sophomore, the net present value of that loan (which will not be fully repaid until 1999) will be $417.

The final asumption is that John Doe received a GSL with a 7 percent interest rate. For new GSL borrowers, old NDSLs, and new NDSLs, interest rates of 9, 3, and 4 percent apply respectively. For John Doe (with his ten-year repayment and 10 percent discount rate) the net present value of a $1,000 loan under each of these alternative program options would be $239 for a new GSL borrower, $436 for an old NDSL, and $394 for a new NDSL.

By relaxing the assumptions for John Doe, we find that a fairly wide range of net present values may be calculated for a $1,000 student loan. Yet under all assumptions the NPVs have positive values. It should be clear that, through the loan programs, the government is conferring upon students a form of nonreturnable aid.

Student Loan Data

It would be useful, in calculating the impact of the student loan programs, to determine how much nonreturnable aid is actually being dispensed and who is receiving it. In such an analysis, the following pieces of information would be important:

- distribution of students by total amount of money borrowed (per year and aggregate)
- distribution of borrowing by year in school
- distribution of borrowers by time spent in repayment and

in deferred activities (including graduate school and additional grace periods)

- o distribution of borrowers by family income and by type and cost of institution attended
- o distribution of borrowers by type and amount of other student assistance received

If these data were available, it would be possible to consider issues like the equity of the distribution of nonreturnable loan aid and the contribution of loans in easing the financial burden on college students. Unfortunately, the information is not readily available, at least for GSL, the larger of the two programs. Because participation in GSL (including eligibility for the in-school interest subsidy) is now open to all students regardless of income, student applicants are no longer required to report their family incomes, a most important piece of information for policy analysis. Other data appear to be collected sporadically and are seldom (if ever) aggregated into national-level distributions.

The lack of program information on GSL borrowing and borrowers makes it necessary to rely on sample surveys for assessment of the program. A discussion of these surveys follows.

Cooperative Institutional Research Program

The Cooperative Institutional Research Program (CIRP) collects a variety of data through an annual survey of first-time, full-time students attending collegiate institutions.[11] The survey has been in operation since 1966; approximately 200,000 freshman students are surveyed each year. On occasion, longitudinal followups have been run as well.

11/ Alexander W. Astin, Margo R. King, and Gerald T. Richardson, The American Freshman: National Norms for Fall 1979 (Los Angeles: Cooperative Institutional Research Program, Graduate School of Education, UCLA) and earlier editions.

During the past decade, data from the freshman and followup surveys have been used in studies of a wide variety of issues, ranging from student retention and attrition to campus protest and the changing attitudes of entering freshmen.[12] It has also been used to study the distribution of student aid awards (by family income and type of institution), although in this area a number of cautions about CIRP are in order.

First, a survey of entering freshmen will not be representative of the entire population of students eligible for Federal aid. It is doubtful that a typical student aid package received by a college freshman will be similar to that received by an upperclasman, a graduate student or a proprietary school student. (For one thing, it is generally believed that freshmen are less likely to take student loans.) In some analyses, the specialized nature of the CIRP population seems to be ignored.

More crucial is the method by which CIRP data on students' family incomes, financial aid awards, and other sources of financial support are collected. Students select, from 14 intervals, a "best estimate" of their parents' incomes. While the overall distribution of responses to this question has been reasonably close to the income distribution of all 18 to 24-year-old college students,[13] we have no basis for assessing the CIRP

12/ Alexander W. Astin, Preventing Students from Dropping Out (San Francisco: Jossey-Bass, 1975); Alexander W. Astin, Helen S. Astin, Alan E. Bayer, and Ann S. Bisconti, The Power of Protest (San Francisico: Jossey-Bass, 1975), David E. Drew and Alexander W. Astin, "Undergraduate Aspirations: A Test of Several Theories," American Journal of Sociology, May 1972, pp.1151-64.

13/ The CIRP income distribution has been compared to the income distribution of students as reported in the Current Population Survey of the Census Bureau. See Cathy Henderson, "What Do We Know About Students: A Comparison of ACE and Census/NCES Data," Washington: Policy Analysis Service/American Council on Education, April 1978 (photostat).

data for its validity in actually reflecting the parental incomes of first-time, full-time students.

Similarly, in indicating how much financial assistance they receive from each source (parents, spouse, grants, loans, work, savings, other), students select from five intervals. (They can also select "none.") For some of the largest student aid programs (Basic Educational Opportunity Grants, Supplemental Educational Opportunity Grants), only three of the intervals ($1 to $499, $500 to $999, and $1,000 to $1,999) are applicable, although some responses outside the range of possibility are received. As is the case with the parental income data, students' responses to the financial support questions are unverified. In all, it is difficult to know what to make of income and financial aid data gleaned from the CIRP survey.

A case in point is GSL. For 1979, the most recent year for which CIRP data are now available, about 13 percent of the CIRP participants claimed to be receiving a Guaranteed Student Loan and the average reported loan was something on the order of $1,453. 14/ Looking at the GSL program data for Fiscal 1979, 15/, however, we find that loans were made to about 16 to 17 percent of all eligible students and the average loan was $1,977. 16/

14/ The average loan was computed by multiplying the midpoint of each interval by the number of students in that interval, summing the total value of the loans, and dividing by the total number of recipients. For the "over $2,000" category, a value of $2,250 was used (the midpoint between $2,000 and the maximal loan of $2,500). If the highest value in each interval had been used, the average loan would still have been only $1,702.

15/ OSFA Program Book, U.S. Department of Education, May 1980, p. 31.

16/ The eligible population is defined as all degree-credit students enrolled on at least a half-time basis. Available enrollment counts do

Thus, the reported average loan and perhaps also the participation rate derived from the CIRP data seem unreasonably low. Some of the difference may reflect a lesser propensity to borrow among freshmen compared with other students (especially graduate and proprietary school students). On the other hand, all CIRP respondents are enrolled full-time, and full-time students almost certainly borrow more frequently and take larger average loans than do part-time students. In all, the data do not seem to reflect the full extent of respondent student participation in the program and cannot be of much use in determining the amount of "nonreturnable" loan aid that students receive.[17]/

The "Middle-Income Squeeze"

Before turning away from CIRP, it may be useful to point out that data from the freshman survey have been used to justify major changes in student assistance policy. A notable example occurred during the 1977-78 Congressional

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not differentiate degree-credit from non-degree-credit students; nor do they differentiate part-time students who attend at least half-time from those who do not. Therefore, estimates of the size of the eligible population are necessarily tentative. The 16 to 17 percent participation rate was calculated on the basis of 1.51 million borrowers among an eligible population of about 6.9 million full-time students and 1.87 to 2.75 million eligible part-time students. Data on total number of loans and average loan size are from the OSFA Program Book.

17/ An additional criticism of the data base comes from a recent evaluation of a report that used CIRP data to study academic persistence and attrition: "CIRP surveys of that period (1975 and earlier) were marred by high within-school student non-response rates. Because the program is a cooperative one, schools participate voluntarily. Self-selection for research-oriented school administration styles is likely. The fact that students from CIRP are similar in some ordinary observed characteristics to all students is irrelevant to the representativeness of the sample on critical new variables like attrition." Harry P. Travis, Review of Three Higher Education Research Institute SISFAP Studies of Student Aid and Postsecondary Participation. (DRAFT Education Policy Center report to the Department of Education, February 1981, pp. 19-20).

debate over tuition tax credits and middle-income student assistance.

At that time some analysts had become convinced that students from families in the income range broadly defined as "middle" were in need of Federal assistance in meeting the costs of college. It was asserted that the existing student aid programs had succeeded in lowering the financial barriers faced by the poor, but that the middle class, who were not eligible for much student aid, were falling behind. The Congress, spurred by constituent pressure, held many hearings to determine whether a "middle-income squeeze" in fact existed and, if so, what should be done about it.

An oft-cited "proof" of a squeeze on middle-income students was the table reprinted here as Table 3, from a report prepared for the ERIC Clearinghouse on Higher Education 18/ The table uses data from the 1975 freshman survey to indicate the average proportion of total college costs that students in three income categories meet from family contributions, grants, loans, work, savings, and other sources. On the basis of this table, the author of the report concluded:

> Total "grants" plus family contributions comprise the "subsidies" to the student, who must make up the difference by work, borrowing, drawing upon savings, or other financing. It is seen that the portion the student must "make up" -- i.e. the student's net cost -- is greatest for the middle-income group and is least for students from high-income families. On the average, middle-income students must provide for themselves or find other sources for about 41.6 precent of their college expenses, compared to 32.2 percent for the low-income group and 29.6 percent for the high-income group.19/

18/ Larry L. Leslie, Higher Education Opportunity: A Decade of Progress. ERIC/Higher Education Research Report No. 3. Washington: American Association for Higher Education, 1977.

19/ Leslie, pp. 25-26 (footnote omitted)

TABLE 3

Percentage of Total College Costs Paid from Various Sources, by Income Level

Source	Parental Income: Low (<$8,000)	Middle ($8,000-19,999)	High ($20,000 or more)	All Students
BEOG	27.0	7.3	1.5	8.3
SEOG	3.2	1.1	0.2	1.1
State Scholarship	5.9	4.7	1.4	3.7
Local, Private Scholarship	4.0	4.5	2.6	3.8
Student's GI Benefits	1.9	1.0	0.4	0.9
Parents' GI Benefits	1.0	0.6	0.3	0.5
SS Dependents' Benefits	5.4	1.8	0.7	1.9
Total Grants	48.4	21.0	7.1	20.2
Parents or Family	18.6	36.8	62.9	43.1
Spouse	0.7	0.4	0.3	0.4
Total Family Assistance	19.3	37.2	63.2	43.5
Total Grants and Family Assistance	67.7	58.2	70.3	63.7
College Work Study	4.3	2.3	0.6	2.0
Federal Guaranteed Student Loan	2.6	3.6	1.8	2.8
National Direct Student Loan	3.0	2.6	0.7	2.0
Other Loan	1.3	2.0	1.3	1.6
Full-time Work	2.0	2.5	1.8	2.2
Part-time Work	10.0	15.5	12.2	13.5
Savings	7.0	11.2	9.2	9.9
Other Financing	2.0	1.9	1.8	1.9
Student Net Cost	32.2	41.6	29.6	35.9
Grand Total	99.9	99.8	99.9	99.6

Note: Totals do not equal 100.0 percent due to rounding.

Source: Unpublished analyses conducted by the Higher Education Research Institute based on data from the national survey of freshmen entering college in 1975 as reported in Astin, A.W.; King, M. R.; and Richardson, G.T. The American Freshman. Los Angeles:

Reprinted from Larry L. Leslie, Higher Education Opportunity: A Decade of Progress ERIC/Higher Education Research Report No. 3. Washington: American Association for Higher Education, 1977, p.26

With little concern over the limitations of CIRP data in justifying such a conclusion, the data from Table 3 were inserted on many occasions into the public record. 20/ Aside from the obvious problems associated with the use of CIRP as a comprehensive data base on student finance, other perhaps even more telling criticisms can be directed at the conclusions made on the basis of this table.

Most serious is that the table obscures the diffences in average educational costs incurred by students at different income levels.21/ It is the case, and it has probably always been the case, that students from wealthier backgrounds choose more expensive types of higher education. Even within the same institution, wealthier students may (because of personal taste in living styles and a greater ability to pay the additional travel expenses incurred in attending an institution far from home) have higher total average costs. The Federal government's responsibility for eliminating these differences has not been well articulated. (There is a Federal

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20/ The entire table was reprinted in Description of Bills Relating to Tuition Credits and Deductions, Subcommittee on Taxation and Debt Management, Committee on Finance, U.S. Senate, January 17, 1978, p.9. The author's conclusions based on Table 3 and the aggregate percentages underlying these conclusions are found five times in Tuition Tax Relief Bills (Hearings before the Subcommittee on Taxation and Debt Management Generally, Committee on Finance, U.S. Senate, January 18, 19, and 20, 1978, pp. 455-6, 458-9, 465, 497, 505), four times in College Tuition Tax Credits (Hearings before the Task Force on Tax Expenditures, Government Organization, and Regulation, Committee on the Budget, U.S. House of Representatives, April 28 and May 12, 1977, pp. 41-2, 43, 47 and 76); and three times in Tax Treatment of Tuition Expenses (Hearings before the Committee on Ways and Means, U.S. House of Representatives, February 14, 15, 16, 17, and 21, 1978, pp. 198, 209, and 679). Finally, the table is reprinted in Tuition Tax Credits and Alternatives, Washington: American Enterprise Institution (Legislative Analyses): April 4, 1980, p. 6. In none of these instances is the validity of the data questioned.

21/ The author of the report acknowledges, in a footnote, that these differences exist, but he does not take them into account in his analysis.

commitment to enhancing student "choice," but how much choice and what style of living are to be supported have never been clear.)

The 1975 CIRP data indicate that low-, middle-, and upper-income students incurred an average total cost of $2,302, $2,432, and $3,100 respectively.[22] Converting the percentages in Table 3 to dollars, we find that middle-income students contributed $5.00 more than upper-income students from full-time work, $37.00 more from College Work-Study earnings, $1.24 less from other part-time work, and $19.00 less from savings. It seems that the actual loan-work-savings burden on middle-income students is about equal to that on their wealthier peers. In all, there is little evidence of a "middle-income squeeze"; the table is a good indication of how misleading the "student burden" measure can be when it is employed without disaggregation by type or cost of institution.

Another important factor that is obscured by the table is the presence of many independent students. For lack of further information, one must assume that reponses from independent students are included in the averages listed in the table and that the independent students are grouped by parental income. Yet parental income does not influence how much Federal student aid an independent student can receive. Thus, the inclusion of these students has an unknown but probably significant impact on the overall averages.[23]

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[22] The average costs were computed using the Leslie report (table A-10, p.A-12), the 1975 National Norms, and a draft 1977 paper, by Engin I. Holmstrom of the American Council on Education entitled, "Who Goes Where and How?"

[23] What is certain is that many independent students are now in higher education. In the 1978-79 award year, 37 percent of all Basic Grant recipients (and BEOGs are available only to undergraduates) were independent.

While other criticisms of Table 3 could be raised, no more are needed.[24] On the basis of the dubious value of CIRP as a comprehensive student finance data base and the way in which the data have been used, it is not going too far to say that as a source of information on "student burdens," Table 3 is simply irrelevant.

The SISFAP Surveys

As the battle over aid to middle-students continued, it became clear that a better source of data on student finances was needed. Toward this end, the U.S. Office of Education commissioned two student surveys, as part of a continuing effort to evaluate the effects of student financial assistance programs.[25] (The studies completed under this effort are collectively referred to as SISFAP for "Study of the Impact of Student Financial Aid Programs.") In 1978-79 and then again in 1979-80, after passage of the Middle Income Student Assistance Act (MISAA), a mail survey was sent to some some 20,000 undergraduate students, from whom about 12,000 usable responses were received in each year.

The SISFAP surveys avoid some of the drawbacks of CIRP. Data were collected from a random sample of undergraduate students enrolled on at least a half-time basis at about 175 institutions, including proprietary

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[24] One might question whether the averages shown in the table are an indication of actual student finances. There is no way of knowing whether the interval midpoints (on which one presumes these averages are based) are really the average amounts that respondents in those intervals received or how much variation occurred around the averages.

[25] The survey results are reported in Study of the Impact of Program Management Procedures in the Campus-Based and Basic Grant Programs (G-129), Volume II: Who Gets Financial Assistance, How Much, and Why? and Study of the Impact of the Middle Income Student Assistance Act (MISAA). Silver Spring, Md.: Applied Management Sciences, Inc.: March 31 and May, 1980.

schools. (The institutions were stratified on the basis of type, control, size, and cost.) Thus, the sample should be representative of undergraduate students who were eligible for financial aid.

Financial data for all students who applied for aid were collected from the records kept by institutional financial aid offices. For a number of reasons, these data should be superior to the student-reported data in CIRP. (One reason is that aid applicants are often required to provide copies of tax returns and other documentation.) Actual dollar figures were extracted from financial aid records for students' family income, assets, and financial aid awards. A figure for "Expected Family Contribution" was constructed from institutional records on "Calculated parental contribution", "Student's contribution from assets," "Spouse's contribution," and Social Security and veterans' payments. 26/ Recording of these actual dollar amounts should permit a more precise analysis than is possible with the interval responses in CIRP.

Tables indicating the distribution of average budgets, expected family contributions, student aid awards, and other sources of financial support, by students' type of institution, for all students in the SISFAP record review survey are included as Appendix A to this paper. 27/ (Note again

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26/ The authors of the SISFAP reports state that they computed expected family contribution "using the currently accepted assessment of the family's ability to pay." It is not certain whether they used the BEOG methodology the Uniform methodology, or some combination thereof (such as whatever system the surveyed institution was using).

27/ The figures in these tables do not correspond precisely to those included in the SISFAP reports. Reweighting of the data (which occurred after publication of the final reports) has resulted in a new set of numbers. The author would like to thank the American Institutes for Research for editing the reweighted data and preparing the revised tables.

that this includes only students who applied for financial aid.) The SISFAP surveys appear to provide information of unprecented value on the distribution of Basic Grants and Campus-Based student aid[28] to students attending different types of institution.

Unfortunately, the surveys do not provide a complete picture of how students pay for college. As with the previous efforts, a major problem is the collection of data on Guaranteed Student Loans.

For 1978-79 the SISFAP data indicate that 450,837 students received a GSL;[29] this is approximately 42 percent of the number of loans made during the concurrent fiscal year (FY 1978). Some of the difference is accounted for by the fact that graduate students (who are eligible for GSL's) were not included in the SISFAP survey. Yet the SISFAP data indicated a GSL participation rate of only 6-7 percent, sufficiently below the actual 12-13 percent participation rate (for all students) to warrant the conclusion that a good deal of participation was not picked up in the survey.[30]

In 1979-80 a similar undercount occurred. Based on the student survey data, an estimated 589,896 undergraduates took GSLs, or 39 percent of the

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[28] Supplemental Education Opportunity Grants, College Work-Study, and National Direct Student Loans.

[29] On the basis of responses to the student survey, an estimated 450,837 students received GSLs; however, only 274,492 students indicated an amount of GSL received. In the record review survey, amount of GSL received is provided for only 394,570 students.

[30] Participation rates are estimated on the basis of approximately 5.9 million full-time undergraduates, .9 to 1.6 million eligible part-time undergraduates, .8 million full-time graduate students, and .9 to 1.0 million eligible part-time graduate students in FY 1978. To have accounted for all of the 634,000 loans not uncovered by the SISFAP survey, graduate students would have had to participate in the program at a rate approaching 65 percent.

actual number of borrowers. The data indicated about an 8 percent participation rate for undergraduates,[31] well below the 16 to 17 percent overall rate that actually prevailed.

Beyond the issue of GSL under-representation, another problem occurs with the SISFAP data: this is the amount of "unmet need" that the authors of the study assigned to students. (See the right-hand column of the Appendix A tables.) "Unmet need" appears to be that part of the cost of college that could not be attributed to expected family contribution or the various kinds of financial aid recorded in the financial aid offices. [32] In cases in which expected family contribution plus other resources came to more than total budget, a negative amount of "unmet need" would be found. In the 1978-79 survey, the average amount of "unmet need" found for different types of students ranged from -21 percent to +36 percent of the average budget. In 1979-80, the range was from -21 percent to +28 percent.

The authors of the SISFAP reports contended that the "unmet need" they had found was, "an additional burden upon the students." Thus they concluded, "The combination of loans, work, and unpackaged [i.e. unmet] need, therefore, must be considered the real 'net price' which the student pays for

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[31] Estimate based on 6.0 million full-time and 1.0 to 1.7 million eligible part-time undergraduates.

[32] This definition of "unmet need" as a residual is uncertain. When added to family contribution, grants, loans, and work, the unmet need does not always bring the total of all financial resources up to 100 percent of anticipated budget. The sum of all (average) financial resources for the different groups of students ranges from 87 to 104 percent of average budget in 1978-79 and 96 to 102 percent in 1979-80. (In those data cells with many respondents, the totals tend to be closer to 100 percent.) The authors offer no reason for these discrepancies.

his/her education."[33] Yet it seems that "unmet need" would appear in the data for a variety of reasons, including:

- o incorrect specification of total cost of education. In many cases the student will spend more or less than the financial aid officer estimates. This may largely be a matter of taste in living styles.
- o misspecification of family contributions. As with total cost of education, the amount a family contributes may be quite different from what is calculated in the financial aid offices.
- o GSL borrowing not uncovered in the survey. (We can assume that some additional borrowing occurred.)
- o unreported student contributions from work or savings

The authors would be correct to conclude that "unmet need" should be considered part of the "student burden" if that need reflects only additional student borrowing or contributions from work or savings. But differences in individual choice with regard to family contribution and total cost will not necessarily increase the net cost to the student. It seems most appropriate to think of the "unmet need" figure not as unmet need (it must somehow be met or the student would not be in school) but as a combination of "unaccounted-for need" and "non-need." The presence of a large amount of this "unmet need" in many of the data cells (particularly those for proprietary school, community college, and independent students) makes evaluation of student financial burdens using SISFAP data somewhat difficult.

Net Student Burden

Despite these criticisms of the SISFAP data, the surveys are the best source of information on how students in recent years have paid for college. No other data source provides as comprehensive a picture of student finances

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[33] Who Gets Financial Assistance, How Much and Why?, p. 6.33

for recent undergraduate students. While the problems with GSL under-representation and "unmet need" should not be overlooked, the general magnitudes and directions of the numbers involved (if not the precise numbers) should be suggestive of what is occurring in student finance.

For this analysis we return to the concept of "net cost" or "student burden" -- that part of the cost of going to college that the student must come up with after family contribution and "nonreturnable" student aid have been received. It has been held that a key measure of the success of student aid programs is the degree to which they equalize the net costs borne by students of different incomes attending institutions of the same cost.[34/] The SISFAP data (as shown in the Appendix A tables) can be used to measure the extent to which average "student burdens" have been equalized for students at different types of postsecondary education institution.

In considering student burdens, we focus on the three largest sectors of postsecondary education: public two-year colleges, public four-year colleges, and private four-year colleges. [35/] The "student burden" is computed (see Appendix B) as that part of total college cost which the student must meet through loans and work. In addition, two adjustments are made:

34/ The concept of "student burden" as a measure of financial equity is discussed in the SISFAP report, Who Gets Financial Assistance, How Much, and Why?, pp. 6.4-6.7 and 6.33-6.38 and in the Annual Evaluation Report on Programs Administered by the U.S. Office of Education, Fiscal Year 1979, pp. 253-4.

35/ Students at these institutions make up about 90 percent of all students eligible for financial aid, according to the SISFAP weighted population estimates.

- the "nonreturnable" portion of student loans is subtracted from the total student burden. Because no valid measure of the actual "nonreturnable" loan is available, the "John Doe" assumptions are used. Thus, $332 of each $1,000 in GSL and $436 of each $1,000 in NDSL is considered a grant to the student.[36/]

- the average "unmet need" in the data is subtracted from the average student budget, in order to reflect uncertainty over how much of this need really exists and how it is met. The resulting measure of "student burden" is thus obtained by dividing contributions from work and (returnable) loans by the total amount of financial contributions attributable to any source.

The estimated average "net student burdens" calculated by this process for the two years, in dollars and in percentage of total budget, are shown in Tables 4, 5, and 6.

From the tables and from Appendix B, several inferences can be drawn:

- For students in all income groups attending public two-year colleges, the average net student burden, in dollar terms, is not large and the amount of borrowing is inconsequential. On a percentage basis, the burden appears to be equalized for students with family incomes up to $25,000. Middle-income ($12-25,000) students appear to have had their burden substantially reduced after MISAA. Independent students appear to contribute substantially more earnings from work than do dependents.

- For students in public four-year colleges, the burdens appear to be roughly equalized, in terms of both percentages and dollars, especially in the post-MISAA year. In that year, independent students appear to have had only a slightly higher burden than dependents. The impact of MISAA on different groups of students is uncertain. (For some the burden increased; for others it declined.)

- For all groups of students, including independents, enrolled in private four-year colleges, the burden appears to be substantially equal. A slightly higher burden on students in

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36/ To the author, the "John Doe" assumptions (three years of in-school interest subsidy, nine-month grace period, ten-year repayment, ten percent discount rate) seem to be fairly neutral, balancing out borrowers with higher and lower discount rates, in-school periods, and deferment and repayment periods. Readers may wish to adjust the "nonreturnable loan" estimates to reflect their own assumptions.

TABLE 4

Estimated Average Net Student Burdens
For Students in Public Two-Year Colleges

Family Income	1978-79		1979-80	
	$	%	$	%
$0-5,999	792	38.5	732	35.6
$6,000-11,999	625	31.7	821	34.7
$12,000-17,999	916	38.4	688	27.3
$18,000-24,999	1,058	34.4	663	24.8
$25,000-29,999	398	10.3	640	19.9
$30,000 or more	*	*	636	18.3
Independent Students	1,148	42.0	1,200	35.5

*Insufficient observations

TABLE 5

Estimated Average Net Student Burdens
For Students in Public Four-year Colleges

Family Income	1978-79		1979-80	
	$	%	$	%
$0-5,999	653	26.3	714	22.9
$6,000-11,999	772	27.0	969	29.1
$12,000-17,999	981	32.9	1,092	30.7
$18,000-24,999	1,211	35.3	1,040	25.9
$25,000-29,999	1,152	25.5	1,169	29.8
$30,000 or more	996	16.3	1,006	21.4
Independent Students	1,462	38.7	1,311	31.3

TABLE 6

Estimated Average Net Student Burdens
For Students in Private Four-year Colleges

Family Income	1978-79		1979-80	
	$	%	$	%
$0-5,999	1,187	25.1	1,205	23.9
$6,000-11,999	1,346	29.5	1,361	28.2
$12,000-17,999	1,433	30.7	1,374	26.3
$18,000-24,999	1,526	27.1	1,515	25.4
$25,000-29,999	1,379	24.2	1,603	24.6
$30,000 or more	1,413	21.4	1,494	20.4
Independent Students	1,393	28.7	1,089	22.7

the $6,000 to $18,000 income range and on independents may have been eliminated by MISAA.

From all the data, a few general conclusions can also be made. First, most of the average net student burdens appear to be quite small. We might recall that, as part of the most recent reauthorization, the higher education associations proposed and the Congress enacted into law a policy objective that the combination of family contribution plus grants make up 75 percent of a student's cost of education (or, in other words, that the student burden be only 25 percent). 37/ From the SISFAP data,

37/ Education Amendments of 1980. Report of the House Committee on Education and Labor (Report No. 96-520), October 17, 1979, p. 20, and Education Amendments of 1980 (P.L. 96-344-Oct. 3, 1980) 94 STAT. 1401.

it appears that this objective has already been achieved; in fact, it looks like it was close to being met even before passage of MISAA. 38/ The only groups with an average net student burden significantly higher than 25 percent are low-income community college students (for whom the burden in dollar terms is very low) and some independent students (for whom a 25 percent goal may be inappropriate).

Second, the data provide little evidence of a "middle-income squeeze," either before or after MISAA. For all three types of colleges, the differences in percentage burden for different income groups (within the broad range of $0 to $25,000 for community college students and $0 to 30,000 for four-year college students) are quite small, at most a few hundred dollars. In the post-MISAA year, these differences disappear almost entirely. In terms of earnings contributed from work (perhaps the best indicator of immediate student burden), there appear to have been no significant inter-group differences in either year. In all, the only students who seem to have had a smaller net student burden are upper-income students, and their major source of financial support was overwhelmingly family contribution.39/

A final comment is that the impact of the Middle Income Student Assistance Act is only partially revealed in the data. Appendix A tables show that the half-billion dollar increase in Basic Grants40/ and the $70

38/ A necessary caveat here is that, of course, the figures in these tables are only averages; many students will face a higher or lower college cost burden than the data indicate.

39/ We might also note that the amount of money contributed from work by students in the over-$25,000 categories was about the same as that contributed by other students.

40/ The actual increase in program expenditures for BEOGs between FY 1978 and FY 1979 was about $890 million. Some of this increase (which the

million funding increase for Supplemental Grants resulted in sharply higher grant averages for middle-income students. Upper-income, and in some cases, lower-income students also appear to have benefited from the increased availability of grant assistance. One change in the law for which little impact is found, however, is the elimination of the provision in GSL that denied payment of the in-school interest subsidy for loans to students from families with adjusted gross incomes of more than $25,000. As a result of this change, one would expect to find a significant increase in average GSL for students in the over-$25,000 categories. 41/ Such an increase does not show up in the data. In fact, for the "$30,000 and over" group, the data actually indicate a decrease in GSL per student. We might take this as an additional indication of the inability of the SISFAP surveys to determine the full extent of GSL borrowing, and also, perhaps, as evidence that it took some time after the passage of MISAA for upper-income students to take advantage of the change in the law.

Summary and Conclusions

The objective of this paper has been to explore the impact of recent changes in Federal student aid policies on the means by which students pay for college. A particular concern has been the impact of major increases in the availability of student loans on student finances.

Since the mid-1970's, the volume of student loans (particularly Guaranteed Student Loans) has increased dramatically. As the discussion of "net present

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author estimates at $413 million) can be attributed to administrative problems, which caused the expenditure level for 1978 to be well below that anticipated on the basis of number of applications received.

41/ We note that this would mean an increase in the net student burden for those students.

value" indicates, the loan programs are partially a vehicle for government provision of nonreturnable grants to students. For a hypothetical baseline student it has been found that about 32 percent of a GSL and 43 percent of an NDSL are never returned. For any actual student, the amount of nonreturnable aid received depends on the particular circumstances involved: amount of subsequent in-school time, deferment periods, schedule of repayments, discount rate. It is clear that with the Department of Education making or guaranteeing loans at the rate of $8.7 billion per year (the estimated volume for FY 1981), a significant amount of nonreturnable aid is being received by students. Thus, it seems important to get some idea of the actual amount of aid involved and also to determine, in a more general sense, what role student loans have come to fill in overall student finance.

For these purposes, two major sources of student aid data are considered. Both sources are useful in the analysis of different aspects of student finance, but neither source is found to adequately reflect the amount of student borrowing that actually occurs or to present a complete picture of how students pay for college.

The annual freshman survey of the Cooperative Institutional Research Program (CIRP) collects unverified student-reported data on family income and amount of financial assistance received from different sources. The method of data collection makes it very difficult to use CIRP for analysis of the amount of student aid that students with different family incomes receive. Furthermore, the respondents are college freshmen only; extension of findings for this population to the general population of postsecondary students is impossible. Despite these problems, the CIRP data have been used frequently in student finance analyses. One example was their unwar-

ranted and misleading use as a justification for major increases in financial assistance to middle-income students.

The SISFAP surveys provide a data source that corrects for many of the deficiencies in CIRP. Yet, like CIRP, the SISFAP data do not document the full extent of student participation in the GSL program. Futhermore, a fairly large portion of the different sources of student finance is unaccounted for and is simply reported as "unmet need." Nevertheless, SISFAP is probably the best source of information on student finances. When disaggregated by type of institution, the data indicate that "net student burdens" (the amount of money the student must contribute from work and loans, minus the nonreturnable portion of loans) are fairly low; further, the data provide little evidence of a "middle-income squeeze," either before or after passage of the Middle Income Student Assistance Act.

Implications for Future Data Collection: It is clear that before we can fully understand what is going on in student finance, a better source of data is needed. The most glaring problem with the current data is the almost total lack of information on student participation in the GSL program. Who borrows, how much they borrow, when they borrow, and how quickly they repay are all questions that can now be addressed only through speculation. For the future, data collections on student finance should concentrate on the following areas:

- Graduate students. Since graduate students are major GSL borrowers, no complete picture of participation in the GSL program will be available unless they are included in future surveys.

- Students who do not apply for Basic Grants or Campus-Based aid. Although these students will not have detailed financial information on file in the campus student aid offices, they can participate in the GSL program. In future surveys, some attempt should be made to elicit detailed information (of the type

reported for aid applicants in the SISFAP record review surveys) on sources of financial support for these students.

- o A better match between total need and aggregate sources of financial support. For future surveys, it would not seem too difficult to develop a measure of total student budget that actually reflects the total amount of money that the student spends from all available sources. This would permit an improved analysis of student burdens without confusion over treatment of "unmet need."

- o Aggregate loan burdens and repayment patterns. For determination of the amount of nonreturnable loan aid students receive and for cost prediction in the loan programs, a reliable source of data is needed on how much students have borrowed by the time they leave school, how often and for how long they subsequently go into deferable activities, and at what rate they complete their repayments.

For the coming year, the Department of Education is planning to conduct another SISFAP survey. Initial discussions about this project have concentrated on the first three concerns listed above. The final concern must be addressed through other surveys or through improved management and data collection procedures in the loan programs.

Implications for Public Policy: The discussion of CIRP and SISFAP in this paper should provide ample evidence of the murkiness of existing data on student finance. Yet the insufficiency of the data has not inhibited Congress from making major alterations in student aid policies. In general, these changes have made more students eligible for significant amounts of Federal assistance and have increased the level of assistance going to those already in the programs. The impact of these policy changes on the total amount of benefits going to to students can be seen in Table 7.

The increase in funding for student aid has not been uniform across all programs. The greatest increase has been in the amount of money made available by private lenders and guaranteed by the Federal Government for Guaranteed Student Loans. Without statutory amendments to the program,

TABLE 7

Federal Student Assistance Benefits, By Program
Fiscal Years 1977-1982

(in Millions of Dollars)

	Fiscal Year								
	1977	1978	1979	1980	1981		1982		
					Concurrent Resolution	Reagan Budget	Current Law	Carter Budget	Reagan Budget
Basic Educational Opportunity (Pell) Grants	1,588	1,561	2,450	2,673	2,159	2,562	-----	2,736	2,486
Supplemental Educational Opportunity Grants	244	266	330	358	370	370	-----	400	370
State Student Incentive Grants[a/]	60	64	77	77	77	77	-----	77	77
College Work-Study[b/]	469	488	597	610	610	610	-----	610	610
National Direct Student Loans	615	640	711	711	560	560	-----	649	649
Guaranteed Student Loans	1,537	1,959	2,984	4,840	7,000[c/]	5,100[d/]	9,400[c/]	5,700[d/]	5,700[d/]

a/ Federal share only

b/ Includes institutional share

c/ Estimate of total loan volume (student and parent programs) under current program, uncontrolled

d/ Estimate of total loan borrowing (student and parent programs) with Carter/Reagan cost-saving amendments

loan volume will rise to a projected $9.4 billion in Fiscal 1982, a 514 percent ($7.9 billion) increase over the level of five years earlier. Over the same period, the level of funding for Basic Grants shows an increase (assuming the Reagan budget levels for 1981 and 1982) of $898 million, or 57 percent.[42] Increases in the four other programs have been more modest.

GSL is the only student aid program not limited to students with demonstrated "financial need." It is used by students from families at all income levels, including those who are out of reach of the other Federal programs. A net present value calculation allows us to estimate the amount of nonreturnable aid provided to GSL borrowers. Using the John Doe assumptions (with a slight downward adjustment to account for the fact that, in Fiscal 1982, many GSL participants will borrow at 9 percent), provision of $7.3 billion in GSLs[43] would result in nonreturnable assistance of almost $2.4 billion to borrowers, an amount not far below the $2.9 billion going to low- and middle-income students through the Basic and Supplemental Grant programs.[44] It appears that, very soon, the government will be giving away more in nonreturnable loans than in direct grants, a major change from the pattern of earlier years, with an equally notable change in the type of students who receive nonreturnable

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[42] Most of the increase occurred in 1979, when passage of MISAA resulted in opening up of the program to many more students -- the family income cutoff of about $13,000 was moved up to about $25,000 -- and a higher benefit level for those already eligible.

[43] This is the projected loan volume for the (fully-subsidized) student GSL program, if no statutory amendments are enacted.

[44] Admittedly, this does not say much about the amount of nonreturnable assistance received by individual borrowers. The nonreturnable portion of a $2,500 GSL (the annual maximum) under the "John Doe" assumptions is about $800. A low-income student would be likely to receive more than that in grants and would also be eligible to participate in GSL.

assistance.

The explosion in student borrowing under GSL has required major increases in Federal expenditures for in-school interest subsidies, special allowance payments, and administrative overhead. From less than $400 million in 1977, the Federal budget for GSL will rise to over $3.2 billion in 1982 if no statutory revisions are made. In a time of budget stringency, "uncontrollable" 45/ increases in the GSL budget have absorbed funds that could have gone into the need-based programs or into assistance for other levels of education. The impact of the GSL "explosion" on the rest of the student aid budget can probably be detected in several recent developments: (1) the $50-per-recipient cut in funding (a $130 million reduction from the original budget level) for Basic Grants in Fiscal 1980; (2) an additional $80-per-recipient reduction for BEOGs in Fiscal 1981, bringing the maximum BEOG down to $1,670; (3) the $100 million cut in the Federal capital contribution for NDSL in 1981; and (4) the very modest increases proposed in the Carter and Reagan budgets for the five need-based programs in 1982. In order to find room for something close to level funding for these programs, both administrations proposed major structural changes in GSL 46/--proposals not dissimilar to the ones that were denounced and rejected by

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45/ GSL operates essentially as an entitlement program. There is no limit on the number of students who may obtain fully subsidized and guaranteed loans. For each loan made, the government is committed to paying interest subsidies, the special allowance, and administrative allowances to the private lender and to reimbursing the lender if the loan is not repaid in the event of death, disability, or default.

46/ These charges include limiting student borrowing to "remaining need" (after expected family contribution and grants have been subtracted from total cost), eliminating the in-school interest subsidy, and, in the parent loan program, charging market interest rates.

by the Congress during consideration of the 1980 amendments to the HEA. Designed to take take effect in the final quarter of Fiscal 1981, these amendments would cut costs by constraining both borrowing and payment of Federal subsidies.[47]

For the Reagan Administration, an added element in the picture is the President's support for tuition tax credits. As generally conceived, a tuition tax credit for higher education would benefit mainly students from middle- and upper-income families, the same groups who now participate heavily in GSL.[48] Further, because of the large number of families who would take it, a tax credit of even small size would be expensive, probably $1.5 billion at a minimum. In order to afford this, additional funds would have to be taken from the existing programs. A likely candidate for budget cutting in order to afford tax credits might be GSL. Yet billions of dollars cannot be saved in GSL in the immediate future. Even if no new GSLs were made in 1982, only about $787 million (out of $3.2 billion required to keep the program operating as is) would be saved.[49]

For additional savings, the Administration and Congress may have to look to Basic Grants, Supplemental Grants, and Direct Loans, all programs that still work in large measure to ensure needy students access to college. Making large cuts in these programs in order to pay for tuition tax credits

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47/ As shown in Table 7, these changes are projected to reduce borrowing by a projected $1.9 billion in FY 1981 and $3.7 billion in FY 1982. The initial cost savings would be an estimated $103 million in 1981 and $873 million in 1982.

48/ Federal Aid to Postsecondary Students: Tax Allowances and Alternative Subsidies. Washington: Congressional Budget Office, January 1978.

49/ This estimate assumes that the program continues without change through FY 1981.

might mark the end of a remarkable transformation in student aid policy -- from a set of programs primarily directed at low-income students, to one in which middle- and upper-income students are permitted to share the benefits, to one in which low-income may be nudged out entirely. The rationale for such a change in policy has not yet been articulated.

APPENDIX A

Estimated Average Budget
Met by Various Sources of Financial Assistance
for Undergraduate Students

TABLE A-1
ESTIMATED AVERAGE BUDGET MET BY VARIOUS SOURCES OF FINANCIAL ASSISTANCE FOR UNDERGRADUATE STUDENTS IN TWO-YEAR PUBLIC INSTITUTIONS: ACADEMIC YEAR 1978-79

DEPENDENCY BY TOTAL FAMILY INCOME	N	AVERAGE BUDGET	EXPECTED FAMILY CONTRIBUTION	BEOG	SEOG	OTHER GRANTS	NDSL	GSL	OTHER LOANS	CWS	OTHER WORK	UNMET NEED
DEPENDENTS												
$0-5,999	120,609	$2,403	$ 227	$843	$ 61	$152	$44	$ 8	$41	$319	$402	$ 348
$6,000-11,999	93,441	$2,257	$ 307	$760	$119	$137	$66	$16	$31	$225	$321	$ 284
$12,000-17,999	35,820	$2,415	$ 729	$485	$ 84	$151	$61	$55	$22	$377	$445	$ 28
$18,000-24,999	18,277	$2,787	$1,609	$159	$ 8	$207	$45	$54	$17	$479	$500	$ -291
$25,000-29,999	3,712	$3,530	$2,637	$225	$104	$380	$59	$ 0	$ 0	$ 47	$318	$ -317
$30,000 or more*	*	*	*	*	*	*	*	*	*	*	*	*
INDEPENDENTS	278,741	$3,852	$ 771	$649	$111	$126	$132	$64	$66	$201	$764	$1,120

*Insufficient observations

TABLE A-2
ESTIMATED AVERAGE BUDGET MET BY VARIOUS SOURCES OF FINANCIAL ASSISTANCE FOR UNDERGRADUATE STUDENTS IN TWO-YEAR PRIVATE INSTITUTIONS: ACADEMIC YEAR 1978-79

DEPENDENCY BY TOTAL FAMILY INCOME	N	AVERAGE BUDGET	EXPECTED FAMILY CONTRIBUTION	BEOG	SEOG	OTHER GRANTS	NDSL	GSL	OTHER LOANS	CWS	OTHER WORK	UNMET NEED
DEPENDENTS												
$0-5,999	9,046	$3,663	$ 777	$1,123	$71	$336	$105	$343	$ 12	$352	$317	$ 55
$6,000-11,999	13,637	$3,946	$ 889	$ 959	$66	$450	$ 96	$383	$ 31	$248	$469	$ 166
$12,000-17,999	10,520	$3,971	$1,141	$ 443	$76	$377	$135	$375	$ 5	$177	$443	$ 344
$18,000-24,999	11,676	$4,555	$1,702	$ 34	$70	$599	$126	$637	$ 14	$282	$508	$ 108
$25,000-29,999	*	*	*	*	*	*	*	*	*	*	*	*
$30,000 or more	*	*	*	*	*	*	*	*	*	*	*	*
INDEPENDENTS	14,537	$5,847	$2,391	$ 699	$64	$232	$ 88	$337	$373	$130	$857	$-107

*Insufficient observations

TABLE A-3
ESTIMATED AVERAGE BUDGET MET BY VARIOUS SOURCES OF FINANCIAL ASSISTANCE FOR UNDERGRADUATE STUDENTS IN FOUR-YEAR PUBLIC INSTITUTIONS: ACADEMIC YEAR 1978-79

DEPENDENCY BY TOTAL FAMILY INCOME	N	AVERAGE BUDGET	EXPECTED FAMILY CONTRIBUTION	BEOG	SEOG	OTHER GRANTS	NDSL	GSL	OTHER LOANS	CWS	OTHER WORK	UNMET NEED
DEPENDENTS												
$0-5,999	220,962	$2,500	$ 421	$944	$115	$277	$147	$ 45	$13	$191	$335	$ 16
$6,000-11,999	182,567	$2,947	$ 698	$817	$138	$312	$210	$ 58	$18	$169	$428	$ 89
$12,000-17,999	169,012	$3,179	$ 836	$462	$160	$400	$269	$ 66	$ 6	$172	$606	$ 193
$18,000-24,999	121,097	$3,455	$1,411	$132	$ 95	$334	$376	$268	$14	$214	$589	$ 27
$25,000-29,999	31,507	$4,017	$2,605	$ 68	$ 69	$302	$209	$316	$26	$137	$657	$ -494
$30,000 or more	14,412	$5,036	$4,249	$ 19	$ 12	$358	$118	$619	$ 0	$ 42	$468	$-1,069
INDEPENDENTS	226,044	$4,192	$ 930	$722	$163	$279	$381	$109	$75	$344	$754	$ 415

TABLE A-4
ESTIMATED AVERGE BUDGET MET BY VARIOUS SOURCES OF FINANCIAL ASSISTANCE FOR UNDERGRADUATE STUDENTS IN FOUR-YEAR PRIVATE INSTITUIONS: ACADEMIC YEAR 1978-79

DEPENDENCY BY TOTAL FAMILY INCOME	N	AVERAGE BUDGET	EXPECTED FAMILY CONTRIBUTION	BEOG	SEOG	OTHER GRANTS	NDSL	GSL	OTHER LOANS	CWS	OTHER WORK	UNMET NEED
DEPENDENTS												
$0-5,999	102,083	$5,015	$ 638	$1,175	$237	$1,234	$375	$137	$25	$349	$509	$291
$6,000-11,999	97,924	$4,977	$ 754	$ 853	$204	$1,118	$345	$275	$13	$347	$605	$410
$12,000-17,999	108,228	$5,281	$1,065	$ 384	$185	$1,249	$514	$353	$27	$348	$529	$610
$18,000-24,999	123,031	$5,781	$2,062	$ 85	$145	$1,345	$448	$501	$15	$261	$657	$145
$25,000-29,999	62,071	$6,026	$2,732	$ 26	$ 61	$1,139	$373	$524	$24	$208	$582	$319
$30,000 or more	57,597	$6,584	$3,974	$ 9	$ 26	$ 745	$193	$831	$ 6	$127	$608	$-33
INDEPENDENTS	73,197	$5,639	$1,711	$ 638	$171	$ 693	$321	$335	$58	$264	$663	$778

TABLE A-5
ESTIMATED AVERAGE BUDGET MET BY VARIOUS SOURCES OF FINANCIAL ASSISTANCE FOR UNDERGRADUATE STUDENTS IN PROPRIETARY INSTITUTIONS: ACADEMIC YEAR 1978-79

DEPENDENCY BY TOTAL FAMILY INCOME	N	AVERAGE BUDGET	EXPECTED FAMILY CONTRIBUTION	BEOG	SEOG	OTHER GRANTS	NDSL	GSL	OTHER LOANS	CWS	OTHER WORK	UNMET NEED
DEPENDENTS												
$0-5,999	30,976	$4,008	$419	$1,239	$214	$213	$190	$296	$13	$36	$130	$1,208
$6,000-11,999	28,298	$4,189	$358	962	$131	$284	$290	$584	$10	$ 3	$115	$1,451
$12,000-17,999	16,832	$4,296	$664	397	$230	$308	$304	$668	$ 3	$18	$135	$1,566
$18,000-24,999	10,565	$4,448	$614	211	$245	$168	$435	$855	$10	$32	$120	$1,600
$25,000-29,999*	*	*	*	*	*	*	*	*	*	*	*	*
$30,000 or more*	*	*	*	*	*	*	*	*	*	*	*	*
INDEPENDENTS	97,131	$5,335	$1,253	$832	$284	$97	$557	$238	$ 6	$ 7	$326	$1,724

*Insufficient observations

TABLE A-6

ESTIMATED AVERAGE BUDGET MET BY VARIOUS SOURCES OF FINANCIAL ASSISTANCE FOR UNDERGRADUATE STUDENTS IN TWO-YEAR PUBLIC INSTITUTIONS: ACADEMIC YEAR 1979-80

DEPENDENCY BY TOTAL FAMILY INCOME	N	AVERAGE BUDGET	EXPECTED FAMILY CONTRIBUTION	BEOG	SEOG	OTHER GRANTS	NDSL	GSL	OTHER LOANS	CWS	OTHER WORK	UNMET NEED
DEPENDENTS												
$0-5,999	143,491	$2,612	$ 173	$813	$147	$141	$ 42	$20	$10	$340	$344	$ 544
$6,000-11,999	110,807	$2,665	$ 392	$820	$195	$ 91	$ 46	$20	$ 0	$419	$362	$ 296
$12,000-17,999	88,124	$2,792	$ 655	$795	$224	$ 78	$ 4	$49	$16	$237	$400	$ 268
$18,000-24,999	5,989	$2,779	$1,118	$607	$ 56	$ 58	$115	$22	$ 0	$226	$357	$ 110
$25,000-29,999	9,495	$3,130	$1,840	$534	$ 0	$ 80	$152	$ 0	$ 0	$ 90	$464	$ -85
$30,000 or more	9,976	$3,575	$2,039	$261	$277	$ 46	$284	$68	$ 0	$ 36	$394	$ 104
INDEPENDENTS	461,317	$4,426	$ 991	$702	$175	$147	$ 98	$52	$ 5	$350	$755	$1,049

TABLE A-7
ESTIMATED AVERAGE BUDGET MET BY VARIOUS SOURCES OF FINANCIAL ASSISTANCE FOR UNDERGRADUATE STUDENTS IN TWO-YEAR PRIVATE INSTITUTIONS: ACADEMIC YEAR 1979-80

DEPENDENCY BY TOTAL FAMILY INCOME	N	AVERAGE BUDGET	EXPECTED FAMILY CONTRIBUTION	BEOG	SEOG	OTHER GRANTS	NDSL	GSL	OTHER LOANS	CWS	OTHER WORK	UNMET NEED
DEPENDENTS												
$0-5,999	28,816	$3,656	$ 681	$1,120	$68	$471	$ 34	$232	$ 0	$140	$354	$ 643
$6,000-11,999	26,138	$3,409	$ 378	$1,066	$61	$624	$ 95	$395	$17	$209	$447	$ 88
$12,000-17,999	29,417	$3,766	$ 648	$ 809	$28	$528	$110	$323	$ 0	$204	$431	$ 619
$18,000-24,999	37,117	$3,522	$1,269	$ 589	$37	$412	$ 71	$462	$70	$215	$405	$ 43
$25,000-29,999	8,989	$4,232	$2,216	$ 316	$18	$731	$ 61	$587	$42	$262	$603	$ -588
$30,000 or more	5,704	$6,738	$5,191	$ 134	$35	$693	$ 17	$938	$ 0	$240	$868	$-1,400
INDEPENDENTS	46,382	$4,442	$1,003	$ 778	$38	$315	$ 65	$147	$140	$ 37	$550	$1,214

TABLE A-8
ESTIMATED AVERAGE BUDGET MET BY VARIOUS SOURCES OF FINANCIAL ASSISTANCE FOR UNDERGRADUATE STUDENTS IN FOUR-YEAR PUBLIC INSTITUTIONS: ACADEMIC YEAR 1979-80

DEPENDENCY BY TOTAL FAMILY INCOME	N	AVERAGE BUDGET	EXPECTED FAMILY CONTRIBUTION	BEOG	SEOG	OTHER GRANTS	NDSL	GSL	OTHER LOANS	CWS	OTHER WORK	UNMET NEED
DEPENDENTS												
$0-5,999	187,590	$3,299	$ 615	$1,060	$143	$381	$193	$ 59	$ 4	$253	$308	$ 175
$6,000-11,999	193,498	$3,589	$ 652	$1,055	$106	$327	$194	$120	$ 4	$274	$501	$ 257
$12,000-17,999	208,114	$3,677	$ 771	$ 921	$106	$359	$298	$188	$ 7	$235	$537	$ 123
$18,000-24,999	165,691	$3,994	$1,557	$ 695	$ 86	$338	$178	$265	$ 9	$200	$551	$ -16
$25,000-29,999	64,904	$3,916	$1,574	$ 505	$ 69	$178	$263	$433	$14	$170	$543	$ -5
$30,000 or more	45,559	$4,414	$2,477	$ 319	$ 50	$529	$145	$321	$ 4	$162	$540	$-279
INDEPENDENTS	287,578	$4,921	$1,156	$ 872	$163	$329	$375	$157	$14	$376	$604	$ 727

TABLE A-9
ESTIMATED AVERAGE BUDGET MET BY VARIOUS SOURCES OF FINANCIAL ASSISTANCE FOR UNDERGRADUATE STUDENTS IN FOUR-YEAR PRIVATE INSTITUTIONS: ACADEMIC YEAR 1979-80

DEPENDENCY BY TOTAL FAMILY INCOME	N	AVERAGE BUDGET	EXPECTED FAMILY CONTRIBUTION	BEOG	SEOG	OTHER GRANTS	NDSL	GSL	OTHER LOANS	CWS	OTHER WORK	UNMET NEED
DEPENDENTS												
$0-5,999	78,026	$5,728	$ 557	$1,347	$272	$1,425	$349	$126	$ 3	$337	$543	$ 696
$6,000-11,999	100,461	$5,661	$ 567	$1,150	$304	$1,285	$363	$258	$ 4	$441	$536	$ 835
$12,000-17,999	119,153	$6,002	$1,088	$ 824	$199	$1,414	$399	$328	$ 4	$355	$568	$ 775
$18,000-24,999	151,392	$6,153	$1,845	$ 516	$242	$1,530	$366	$515	$16	$341	$603	$ 172
$25,000-29,999	91,194	$6,335	$2,579	$ 296	$124	$1,465	$352	$687	$34	$314	$590	$ -173
$30,000-or more	100,600	$7,115	$4,025	$ 142	$ 54	$1,202	$281	$595	$12	$275	$646	$ -219
INDEPENDENTS	101,074	$6,635	$1,362	$1,050	$316	$ 720	$402	$249	$ 1	$232	$460	$1,844

TABLE A-10
ESTIMATED AVERAGE BUDGET MET BY VARIOUS SOURCES OF FINANCIAL ASSISTANCE FOR UNDERGRADUATE STUDENTS IN PROPRIETARY INSTITUTIONS: ACADEMIC YEAR 1979-80

DEPENDENCY BY TOTAL FAMILY INCOME	N	AVERAGE BUDGET	EXPECTED FAMILY CONTRIBUTION	BEOG	SEOG	OTHER GRANTS	NDSL	GSL	OTHER LOANS	CWS	OTHER WORK	UNMET NEED
DEPENDENTS												
$0-5,999	26,549	$4,308	$ 218	$1,449	$213	$234	$328	$372	$16	$154	$232	$1,062
$6,000-11,999	18,859	$4,162	$ 327	$1,299	$308	$221	$304	$375	$ 0	$ 55	$200	$1,082
$12,000-17,999	12,726	$4,051	$ 817	$ 865	$254	$261	$309	$395	$ 0	$120	$161	$ 894
$18,000-24,999	12,437	$4,520	$1,094	$ 629	$205	$254	$282	$825	$ 0	$ 20	$188	$1,010
$25,000-29,999*	*	*	*	*	*	*	*	*	*	*	*	*
$30,000 or more*	*	*	*	*	*	*	*	*	*	*	*	*
INDEPENDENTS	82,401	$4,512	$ 625	$1,086	$91	$257	$169	$590	$11	$113	$431	$1,111

* Insufficient observations

APPENDIX B

Calculation of Estimated Average Net Student Burdens

TABLE B-1
CALCULATION OF ESTIMATED AVERAGE STUDENT BURDENS
FOR STUDENTS IN PUBLIC TWO-YEAR COLLEGES

	1978-79						
	FAMILY INCOME						
	$0-5,999	$6,000-11,999	$12,000-17,999	$18,000-24,999	$25,000-29,999	$30,000 or more	Independent Students
Work	$ 721	$ 546	$ 822	$ 979	$ 365	*	$ 965
GSL	8	16	55	54	—	*	64
(nonreturnable)	(3)	(5)	(17)	(17)	—	*	(21)
NDSL	44	66	61	45	59	*	132
(nonreturnable)	(19)	(29)	(27)	(20)	(26)	*	(58)
Other loans	41	31	22	17	—	*	66
Total	$ 792	$625	$916	$1,058	$ 398	*	$1,148
Avg. Budget-"Unmet Need"	$2,055	$1,973	$2,387	$3,078	$3,847	*	$2,732
Burden as % of Total Cost	38.5%	31.7%	38.4%	34.4%	10.3%	*	42.0%

*Insufficient observations

	1979-80						
	FAMILY INCOME						
	$0-5,999	$6,000-11,999	$12,000-17,999	$18,000-24,999	$25,000-29,999	$30,000 or more	Independent Students
Work	$ 684	$ 781	$ 637	$ 583	$ 554	$ 430	$1,105
GSL	20	20	49	22	—	68	52
(nonreturnable)	(6)	(6)	(16)	(7)	—	(22)	(17)
NDSL	42	46	4	115	152	284	98
(nonreturnable)	(18)	(20)	(2)	(50)	(66)	(124)	(43)
Other loans	$ 10	--	16	--	--	--	5
Total	$ 732	$ 821	$ 688	$ 663	$640	$636	$1,200
Avg. Budget-"Unmet Need"	$2,058	$2,369	$2,524	$2,669	$3,215	$3,471	$3,377
Burden as % of Total Cost	35.6%	34.7%	27.3%	24.8%	19.9%	18.3%	35.5%

Source: SISFAP Surveys (Record Review Form) for U.S. Office of Education

TABLE B-2
CALCULATION OF ESTIMATED AVERAGE STUDENT BURDENS
FOR STUDENTS IN PUBLIC FOUR-YEAR COLLEGES

1978-79

	FAMILY INCOME						
	$0-5,999	$6,000-11,999	$12,000-17,999	$18,000-24,999	$25,000-29,999	$30,000 or more	Independent Students
Work	$ 526	$ 597	$ 778	$ 803	$ 794	$ 510	$1,098
GSL	45	58	66	268	316	618	109
(nonreturnable)	(14)	(19)	(21)	(86)	(102)	(199)	(35)
NDSL	147	210	269	376	209	118	381
(nonreturnable)	(64)	(92)	(117)	(164)	(91)	(51)	(166)
Other loans	13	18	6	14	26	--	75
Total	$ 653	$ 772	$ 981	$1,211	$1,152	$ 996	$1,462
Average Budget-"Unmet Need"	$2,484	$2,858	$2,986	$3,428	$4,511	$1,105	$3,777
Burden as % of Total Cost	26.3%	27.0%	32.9%	35.3%	25.5%	16.3%	38.7%

1979-80

	FAMILY INCOME						
	$0-5,999	$6,000-11,999	$12,000-17,999	$18,000-24,999	$25,000-29,999	$30,000 or more	Independent Students
Work	$ 561	$ 775	$ 790	$ 751	$ 713	$ 702	$ 980
GSL	59	120	188	265	433	321	157
(nonreturnable)	(19)	(39)	(61)	(85)	(139)	(103)	(51)
NDSL	193	194	298	178	263	145	375
(nonreturnable)	(84)	(85)	(130)	(78)	(115)	(63)	(164)
Other loans	4	4	7	9	14	4	14
Total	$ 714	$ 969	$1,092	$1,040	$1,169	$1,006	$1,311
Avg. Budget-"Unmet Need"	$3,124	$3,332	$3,554	$4,010	$3,921	$4,693	$4,194
Burden as % of Total Cost	22.9%	29.1%	30.7%	25.9%	29.8%	21.4%	31.3%

Source: SISFAP Surveys (Record Review Form) for U.S. Office of Education

TABLE B-3
CALCULATION OF ESTIMATED AVERAGE STUDENT BURDENS
FOR STUDENTS IN PRIVATE FOUR-YEAR COLLEGES

	1978-79 FAMILY INCOME						
	$0-5,999	$6,000-11,999	$12,000-17,999	$18,000-24,999	$25,000-29,999	$30,000 or more	Independent Students
Work	$ 858	$ 952	$ 877	$ 918	$ 790	$ 735	$ 927
GSL	137	275	353	501	524	831	335
(nonreturnable)	(44)	(89)	(114)	(161)	(169)	(268)	(108)
NDSL	375	345	514	448	373	193	321
(nonreturnable)	(164)	(150)	(224)	(195)	(163)	(84)	(140)
Other Loans	25	13	27	15	24	6	58
Total	$1,187	$1,346	$1,433	$1,526	$1,379	$1,413	$1,393
Avg. Budget-"Unmet Need"	$4,724	$4,567	$4,671	$5,636	$5,707	$6,617	$4,861
Burden as % of Total Cost	25.1%	29.5%	30.7%	27.1%	24.2%	21.4%	28.7%

	1979-80 FAMILY INCOME						
	$0-5,999	$6,000-11,999	$12,000-17,999	$18,000-24,999	$25,000-29,999	$30,000- or more	Independent Students
Work	$ 920	$ 977	$ 923	$ 944	$ 904	$ 921	$ 692
GSL	126	258	328	515	687	595	249
(nonreturnable)	(41)	(83)	(106)	(166)	(221)	(192)	(80)
NDSL	349	363	399	366	352	281	402
(nonreturnable)	(152)	(158)	(174)	(160)	(153)	(123)	(175)
Other loans	3	4	4	16	34	12	1
Total	$1,205	$1,361	$1,374	$1,515	$1,603	$1,494	$1,089
Avg. Budget-"Unmet Need"	$5,032	$4,826	$5,227	$5,963	$6,508	$7,334	$4,791
Burden as % of Total Cost	23.9%	28.2%	26.3%	25.4%	24.6%	20.4%	22.7%